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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/540,128	03/31/2000	Robbin Hughes	990253	3976

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EXAMINER
TRAN, KHANH C

ART UNIT	PAPER NUMBER
2631	

DATE MAILED: 11/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/540,128	HUGHES ET AL.
	Examiner	Art Unit
	Khanh Tran	2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 September 2005*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-7,9-13,18,20 and 21* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-7,9-13,18,20 and 21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some *   c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1. The Amendment filed on 09/19/2005 has been entered. Claims 2-7, 9-13, 18 and 20-21 are pending in this Office action.

Response to Arguments

2. Applicant's arguments with respect to claims 2-7, 9-13, 18 and 20-21 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

3. Claim 12 is objected to because of the following informalities: in line 1, "a corresponding" should be changed to -- corresponding --. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 2-7, 9-13, 18, 20-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Sutton U.S. Patent 5,805,648.

Regarding claim 4, Sutton invention is directed to an improved method and apparatus for acquisition in code division multiple access (CDMA). In column 2 lines 60-67, Sutton discloses that in a spread spectrum communication system, a pilot signal is used to synchronize a remote user in phase and frequency to the transmissions of a base station. In CDMA communication system all base stations use the same pilot signals, but with different time offset to distinguish with each other.

Figure 1 illustrates a remote user performing a search methodology according to Sutton invention. In column 6 line 25 via column 7 line 25, figure 5 illustrates the method by which the searcher operates is shown. In block 80, a large window of PN values is swept. Searcher controller 18 examines the computed energy values and determines if there is a computed energy value greater than Detection Threshold 2 (THM2). If no energy value is detected greater than THM2 then the flow moves to block 78. In block 78, the method determines whether all the windows have been tested using the present set of parameters. In view of the foregoing disclosure, the Searcher controller 18 performs a coarse search using the present set of parameters; see TABLE II, stage 1.

During the search of the large window of PN values, a number of non-coherent passes and a number of chips to integrate (e.g. integration interval) are

selected as shown in TABLE II, stage 1. In column 3 lines 25-40, a window according to Sutton teachings represents a subset of phase offsets from the set of all possible phase offsets. As recited above, searching all the windows corresponds to searching the entire PN space and Sutton teachings impliedly divide the PN space into windows.

Referring to figure 5 again, in column 7 lines 25-40, Sutton further teaches that when in block 82, if a peak greater than THM is found in a large window, then the flow proceeds to block 84. This time a sweep in a smaller set of PN values around the detected peak is performed. This smaller set of PN values is illustrated in FIG. 4 as the small window. In view of the foregoing teachings, the peak corresponds to the claimed first offset corresponding to a first PN encoded pilot signal. The act of sweeping in a smaller set of PN values around the detected peak corresponds to the claimed fine search. In stage 1 of TABLE II, under zoom window search, a first fine search parameter is selected to specify an expected smaller set of PN values around the detected peak.

Regarding claim 2, as shown in stage 1 of TABLE II, the number non-coherent passes in a large window is reduced in comparison with the Zoom Window Search.

Regarding claim 3, in column 7 lines 15-30, Sutton teaches that the numbers provided in Table II are *illustrative* and it is envisioned that other window sizes, thresholds and integration parameters could be used. As shown in stage 1 of TABLE II,

the number of chips to integrate is the same for large window and Zoom Window

Search. However, longer integration interval inherently provides more signal-to-noise

ratio, and in column 2 lines 25-38, Sutton expresses that each new set of parameters is

optimized for different operation condition. Therefore, longer integration interval is

necessary for Zoom Search Window.

Regarding claim 5, claim 5 is rejected on the same ground as for claim 1

because of similar scope. Furthermore, referring to figure 2, the apparatus

includes a search controller 18 for providing each set of parameters (see column

5 lines 30-40). In column 5 lines 1-10, threshold comparer 16 compares the

energy value to predetermined thresholds supplied by searcher controller means

18. The results of each of the comparisons are then fed back to searcher

controller 18. Search controller 18 examines the comparisons and determines

whether the window contains likely candidates for the correct offset then the

window is scanned in accordance with the method of using a zoom window.

In column 5 lines 60-67, the search controller 18 includes a memory

device (not shown in figure 2). Hence, the memory device not only stores sets of

search parameters, but also the comparison results. Figure 2 does not show a

search engine either. However, in column 6 lines 25-30, figure 5 illustrates a

method by which the searcher of the present invention operates is shown. In light

of the foregoing, the apparatus in figure 2 includes a search engine.

Regarding claim 6, claim 6 is rejected on the same ground as for claim 2 because of similar scope.

Regarding claim 7, claim 7 is rejected on the same ground as for claim 3 because of similar scope.

Regarding claim 9, claim 9 is rejected on the same ground as for claim 2 because of similar scope.

Regarding claim 10, claim 10 is rejected on the same ground as for claim 3 because of similar scope.

Regarding claim 11, claim 11 is rejected on the same ground as for claim 1 in view of claim 5 because of similar scope.

Regarding claim 12, as recited in claim 5, threshold comparer 16 compares the energy value to predetermined thresholds supplied by searcher controller means 18. The results of each of the comparisons are then fed back to searcher controller 18. Search controller 18 examines the comparisons and determines whether the window contains likely candidates for the correct offset then the window is scanned in accordance with the method of using a zoom window.

Regarding claim 13, claim 13 is rejected on the same ground as for claim 11 because of similar scope.

Regarding claim 18, claim 18 is rejected on the same ground as for claim 1 because of similar scope.

Regarding claim 20, figure 3 illustrates a fixed window size implementation of the searcher algorithm; see column 2 lines 47-55. Hence, all the large windows are same fixed sizes.

Regarding claim 21, figure 5 illustrates a variable window size implementation of the searcher algorithm; see column 2 lines 47-55. Hence, all the large windows can have variable window sizes.

Conclusion

5.The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kaku U.S. Patent 5,812,593 discloses "Despread Code Phase Detection Apparatus In Spread Spectrum Type Receiver".

Yamamoto et al. U.S. Patent 6,549,545 B1 "Pilot Signal Detection Method And Receiver".

Chung et al. U.S. Patent 5,642,377 "Serial Search Acquisition System With Adaptive Threshold And Optimal Decision For Spread Spectrum Systems".

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh Tran whose telephone number is 571-272-3007. The examiner can normally be reached on Monday - Friday from 08:00 AM - 05:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KCT

Examiner KHANH TRAN

11/25/2005